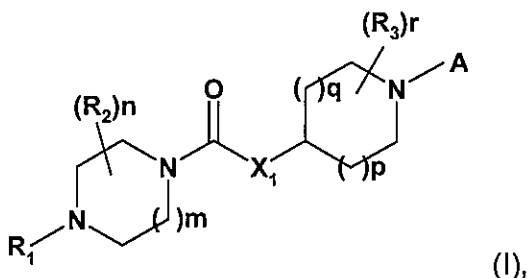


Claims:

1. A compound of the formula I



5 or a salt thereof, wherein

R_1 is C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkinyl, C_{3-6} cycloalkyl, C_{5-6} cycloalkenyl or C_{3-6} cycloalkyl- C_{1-4} alkyl; wherein said C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkinyl or C_{3-6} cycloalkyl- C_{1-4} alkyl may be substituted once or more than once by halogen; and wherein said C_{3-6} cycloalkyl or C_{5-6} cycloalkenyl may be substituted once or more than once by halogen, C_{1-4} alkyl or C_{1-4} halogenalkyl;

m is 1 or 2;

n is 0, 1, 2, 3 or 4;

15

each R_2 independently is halogen, hydroxyl, amino, cyano, nitro, C_{1-6} alkyl, C_{1-6} halogenalkyl, C_{1-6} hydroxyalkyl, C_{1-4} alkoxy- C_{1-6} alkyl, amino- C_{1-6} alkyl, C_{1-4} alkyl-amino- C_{1-6} alkyl, di(C_{1-4} alkyl)-amino- C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} halogenalkoxy, C_{1-6} alkylamino, di(C_{1-6} alkyl)amino, C_{2-6} alkenyl, C_{2-6} halogenalkenyl, C_{2-6} alkinyl or C_{2-6} halogenalkinyl;

20 or C_{3-6} cycloalkyl, wherein one carbon atom may be replaced by an oxygen atom, wherein the C_{3-6} cycloalkyl may be attached directly to the methylene or via a C_{1-2} alkylene, and wherein the C_{3-6} cycloalkyl may be substituted once or more than once by halogen; or two R_2 at the same carbon atom form together with said carbon atom a C_{3-6} cycloalkyl;

25 X_1 is oxygen or $-N(R_4)-$;

R_4 is hydrogen, C_{1-6} alkyl, C_{3-6} cycloalkyl, or C_{3-6} cycloalkyl- C_{1-2} alkyl;

p is 1 and q is 1;

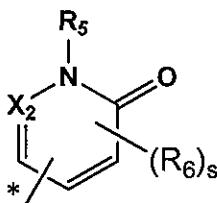
30 p is 0 and q is 1; or

p is 0 and q is 0;

r is 0, 1, 2, 3 or 4;

- 5 each R_3 independently is halogen, hydroxyl, amino, cyano, nitro, C_{1-6} alkyl, C_{1-6} halogenalkyl, C_{1-6} hydroxyalkyl, C_{1-4} alkoxy- C_{1-6} alkyl, amino- C_{1-6} alkyl, C_{1-4} alkyl-amino- C_{1-6} alkyl, di(C_{1-4} alkyl)-amino- C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} halogenalkoxy, C_{1-6} alkylamino, di(C_{1-6} alkyl)amino, C_{2-6} alkenyl, C_{2-6} halogenalkenyl, C_{2-6} alkynyl or C_{2-6} halogenalkynyl;
or C_{3-6} cycloalkyl, wherein one carbon atom may be replaced by an oxygen atom, wherein the
10 C_{3-6} cycloalkyl may be attached directly to the methylene or via a C_{1-2} alkylene, and wherein the C_{3-6} cycloalkyl may be substituted once or more than once by halogen;
or two R_3 at the same carbon atom form together with said carbon atom a C_{3-6} cycloalkyl;

A is



15

wherein the bond marked with the asterisk is attached to the nitrogen atom;

- R_5 is hydrogen, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{3-6} cycloalkyl, C_{5-6} cycloalkenyl or C_{3-6} cycloalkyl- C_{1-4} alkyl; wherein said C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl or C_{3-6} cycloalkyl- C_{1-4} alkyl
20 may be substituted once or more than once by halogen, hydroxyl or C_{1-6} alkoxy; and wherein said C_{3-6} cycloalkyl or C_{5-6} cycloalkenyl may be substituted once or more than once by halogen, C_{1-4} alkyl or C_{1-4} halogenalkyl;

X_2 is nitrogen or carbon;

25

s is 0, 1, 2 or 3;

each R_6 independently is halogen, hydroxyl, amino, cyano, nitro, C_{1-6} alkyl, C_{1-6} halogenalkyl, C_{1-6} hydroxyalkyl, C_{1-4} alkoxy- C_{1-6} alkyl, amino- C_{1-6} alkyl, C_{1-4} alkyl-amino- C_{1-6} alkyl, di(C_{1-4} alkyl)-

amino- C_{1-6} alkyl, C_{1-6} alkoxy, C_{1-6} halogenalkoxy, C_{1-6} alkylamino, di(C_{1-6} alkyl)amino, C_{2-6} alkenyl, C_{2-6} halogenalkenyl, C_{2-6} alkinyl or C_{2-6} halogenalkinyl;

or C_{3-6} cycloalkyl, wherein one carbon atom may be replaced by an oxygen atom, wherein the C_{3-6} cycloalkyl may be attached directly to the methylene or via a C_{1-2} alkylene, and wherein

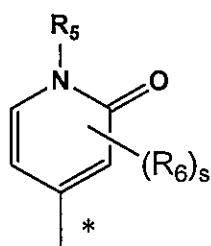
5 the C_{3-6} cycloalkyl may be substituted once or more than once by halogen.

2. A compound of formula I according to claim 1, wherein X_1 is oxygen; or a salt thereof.

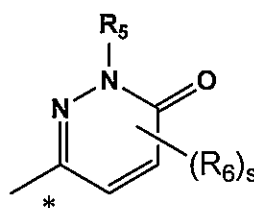
3. A compound of formula I according to any of claims 1 or 2, wherein p is 1 and q is 1;
10 or a salt thereof.

4. A compound of formula I according to any of claims 1 to 3, wherein R_1 is isopropyl, cyclopropyl, cyclobutyl or cyclopentyl and m is 1; or a salt thereof.

15 5. A compound of formula I according any of claims 1 to 4, wherein A is selected from A3 and A4



(A3);



(A4);

wherein the bond marked with the asterisk is attached to the nitrogen atom;

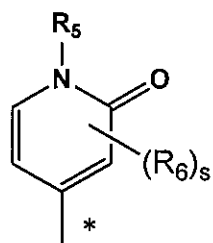
or a salt thereof.

20

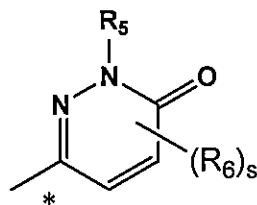
6. A compound of formula I according to claim 1, wherein R_1 is isopropyl or cyclobutyl; m is 1; n is 0, 1 or 2; each R_2 independently is halogen, C_{1-4} alkyl, C_{1-4} halogenalkyl, C_{1-4} alkoxy, C_{1-4} halogenalkoxy or C_{3-4} cycloalkyl; or two R_2 at the same carbon atom form together with said carbon atom a C_{3-4} cycloalkyl;

25 X_1 is oxygen;

p is 1 and q is 1; r is 0, 1 or 2; wherein each R_3 independently is halogen, C_{1-4} alkyl, C_{1-4} halogenalkyl, C_{1-4} alkoxy, C_{1-4} halogenalkoxy or C_{3-4} cycloalkyl; or two R_3 at the same carbon atom form together with said carbon atom a C_{3-4} cycloalkyl; A is selected from A3 and A4



(A3);



(A4);

wherein the bond marked with the asterisk is attached to the nitrogen atom;

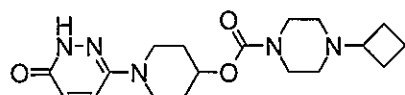
R₅ is hydrogen or methyl;

s is 0, 1 or 2; and

- 5 each R₆ independently is halogen, C₁₋₄alkyl, C₁₋₄halogenalkyl, C₁₋₄alkoxy, C₁₋₄halogenalkoxy or C₃₋₄cycloalkyl; or a salt thereof.

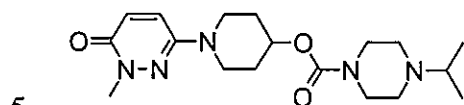
7. A compound of formula I according to claim 1, wherein said compound is selected from the group consisting of
- 10 1-(6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-cyclobutylpiperazine-1-carboxylate;
1-(1-methyl-6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-isopropylpiperazine-1-carboxylate;
1-(6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-isopropylpiperazine-1-carboxylate;
15 1-(6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-cyclopropylpiperazine-1-carboxylate;
1-(1-methyl-6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-cyclobutylpiperazine-1-carboxylate;
1-(1-ethyl-6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-isopropylpiperazine-1-carboxylate;
1-(1-methyl-2-oxo-1,2-dihydropyridin-4-yl)piperidin-4-yl 4-isopropylpiperazine-1-carboxylate;
20 1-(2-oxo-1,2-dihydropyridin-4-yl)piperidin-4-yl 4-cyclobutylpiperazine-1-carboxylate;
1-(2-oxo-1,2-dihydropyridin-4-yl)piperidin-4-yl 4-isopropylpiperazine-1-carboxylate; and
1-(6-oxo-1,6-dihydropyridin-3-yl)piperidin-4-yl 4-isopropylpiperazine-1-carboxylate;
or salts of these compounds.

- 25 8. 1-(6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-cyclobutylpiperazine-1-carboxylate having the following formula



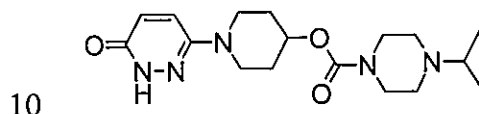
or a salt thereof.

9. 1-(1-methyl-6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-isopropylpiperazine-1-carboxylate having the following formula



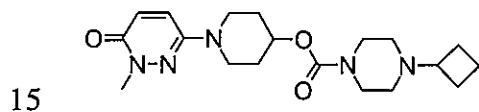
or a salt thereof.

10. 1-(6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-isopropylpiperazine-1-carboxylate having the following formula



or a salt thereof.

11. 1-(1-methyl-6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-cyclobutylpiperazine-1-carboxylate having the following formula



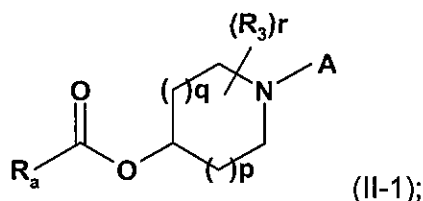
or a salt thereof.

12. A compound selected from
a free form of 1-(1-methyl-6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-cyclobutylpiperazine-1-carboxylate in solid form; and
a salt of 1-(1-methyl-6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-cyclobutylpiperazine-1-carboxylate in solid form, wherein said salt is the citrate, hydrochloride, fumarate, adipate, maleate or sebacate of 1-(1-methyl-6-oxo-1,6-dihydropyridazin-3-yl)piperidin-4-yl 4-cyclobutylpiperazine-1-carboxylate.

25

13. A pharmaceutical composition comprising a therapeutically effective amount of a compound according to any one of claims 1 to 12 and one or more pharmaceutically acceptable carriers.

14. Use of a compound according to any one of claims 1 to 12, in the preparation of a medicament for the treatment of a disorder or disease in a subject mediated by H3 receptors.
15. A combination comprising a therapeutically effective amount of the compound
5 according to any one of claims 1 to 12 and one or more therapeutically active agents.
16. Use of a compound according to any one of claims 1 to 12 in combination with other active agents, for the treatment of a disease or disorder mediated by H3 receptors.
- 10 17. The use according to claim 14 or 16, wherein the disorder is selected from obesity, epilepsy, disorders of sleep and wakefulness with excessive daytime sleepiness, disorders associated with increased fatigue or hypersomnolence, and disorders with impaired cognition.
18. The use according to any one of claims 14, 16 or 17 wherein the disorder is selected
15 from narcolepsy, obstructive sleep apnoea syndrome, fatigue associated with Parkinson's disease, fatigue associated with multiple sclerosis and fatigue associated shift-work.
19. A compound of formula II-1



- 20 or a salt thereof; in which p, q, r, R₃ and A are as defined under formula I; and R_a is a leaving group.